



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,675	12/29/2005	Koichi Oka	06854.0049	8279
22852	7590	07/07/2011		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER LAM, VINH TANG	
			ART UNIT	PAPER NUMBER
			2629	
			MAIL DATE	DELIVERY MODE
			07/07/2011 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,675

Applicant(s)

OKA ET AL.

Examiner

VINH LAM

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, 20-35, 40-44 and 46-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-19, 36-39, 45 and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim **19** is objected to because of the following informalities: Typographical error.

“...the number of sensor elements of the image sensor...” should be

“...a number of picture elements of the image sensor...”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the **first paragraph** of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims **16** and **36** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding Claims **16** and **36**, the speciation as originally filed has failed to provide support for the recitation of “...a visual field of the image sensor is fixed with

respect to a distance and an angle between the image sensor and the screen..." and "...**the image sensor is moving at the sensor velocity** ...". The specification does not reasonably convey one skill in the art how to make or use applicant claimed invention for "...a visual field of the image sensor **is fixed with respect to a distance and an angle between the image sensor and the screen...**" and "...**the image sensor is moving at the sensor velocity** ...".

There is no disclosure in the original Specification teaches how are the screen and the image sensor moved while maintaining their relative distance and angle? And

What are the claim's features or methods utilized to maintain their relative distance and angle?

The following is a quotation of the **second paragraph** of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **16**, **17**, **36**, and **37** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation of Claims **16** and **36** "...a visual field of the image sensor **is fixed with respect to a distance and an angle between the image sensor and the screen...**" and "...**the image sensor is moving at the sensor velocity** ..." are not clear.

Since "...a visual field of the image sensor is fixed with respect to a distance and an angle between the image sensor and the screen...", the relative positions of the screen and the image sensor must be fixed, initially?

Then, "...the image sensor is moving at the sensor velocity ...", therefore, both of the screen and the image sensor must be moving after a predetermined moment of time from their initial positions?

The limitation of Claims 16 and 36 "...setting a sensor velocity corresponding to the pattern velocity ..." is not clear.

Are "...set/(ting) a/(the) sensor velocity..." the same as the image sensor velocity?

If not, which feature's is a/(the) sensor used to measured a/(the) feature's velocity?

To further advance prosecution, the Examiner interprets "...setting a sensor velocity..." as "...setting an angular sensor velocity..." of the rotating galvanometer mirror 2 (which is the omitted feature in the claims) as disclosed by the original Specification (i.e. [0024]-[0037]) and Drawings (i.e. FIGs. 1 & 2).

The limitation of Claims 17 and 37 "...time-stamping the first images with a current time" is not clear.

Does "a current time" means that the date and time are shown on the first images, YYYY/MM/DD; Hr:Min:Sec, for example, 2011/06/13; 13:12:11? Or

Does "a current time" means that there's a method or mechanism tracking the starting and stopping times of an image which is displayed on the screen?

To further advance prosecution, the Examiner interprets "a current time" as a method or mechanism that keeps track of the starting and stopping times of an image which is displayed on the screen in agreement with the original Specification ([0056]-[0059]) and Drawings (FIGs. 3 & 4).

4. Claim **19** recites the limitation "the number" in "determining the number of sensor elements of the image sensor...". There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims **16** and **36** are rejected under 35 U.S.C. 102(b) as being anticipated by

KANAZAWA et al. (JP 2001054147 (already of record)).

Regarding Claim 16, (Currently Amended) **KANAZAWA et al.** teach a method for evaluating a quality ([0016], DWG. 1, i.e. Device Under Test) of motion images ([0015], DWG. 1) on a screen ([0017], DWG. 1, i.e. 2), the method comprising:

capturing, by an image sensor ([0019], DWG. 1, i.e. picture sensing device 5), a plurality of first images ([0022], DWG. 2, i.e. bright portions 21 and dark portions 22) of a test pattern ([0022], DWG. 2, i.e. picture 20) moving on the screen at a pattern velocity ([0056]-[0057], DWG. 9(a) & 9(c), i.e. moving of picture 90 from position as shown in DWG. 9(a) to position as shown in DWG. 9(c) corresponding to field periods **T1** to **T2**) while a visual field ([0056]-[0059], DWG. 9(a) & 9(c), i.e. area of picture 90 shown in DWG. 9(a) and 9(c)) of the image sensor is fixed with respect to a distance and an angle between the image sensor and the screen ([0056]-[0059], DWGs. 9(a) & 9(c), i.e. since the area of picture 90 remains constant remains constant as the mirror 3 rotated at an angle of $\Delta\theta$ as shown in DWG. 10(a) and 10(b), the distance and angle between the picture sensing device 5 and screen 2 must be inherently fixed);

determining the pattern velocity based on the first images ([0019], DWG. 1, i.e. output control of the picture signal; [0020], DWG. 2, i.e. 1 outputs the signal of the picture which moves in the display; [0023], DWG. 2, i.e. the picture is moving with constant speed);

setting a sensor velocity corresponding to the pattern velocity ([0019], DWG. 1, i.e. picture on 2 is inputted into 5 with a roll control,...is clamped by the predetermined

level; [0026], DWGs. 3(a)-3(c), i.e. roll control signal c ... synchronizing with the picture signal a; [0025]-[0028]);

capturing a second image ([0056]-[0057], DWG. 9(a) or 9(c), i.e. picture 90) of the test pattern while the test pattern is moving on the screen at the pattern velocity ([0056]-[0057], DWGs. 9(a) & 9(c), i.e. moving of picture 90 from position as shown in DWG. 9(a) to position as shown in DWG. 9(c) corresponding to field periods T1 to T2) and the image sensor is moving at the sensor velocity ([0019], DWG. 1, i.e. picture on 2 is inputted into 5 with a roll control,...is clamped by the predetermined level; [0026], DWGs. 3(a)-3(c), i.e. roll control signal c ... synchronizing with the picture signal a; [0025]-[0028]); and

evaluating the quality of motion images on the screen based on the second image ([0056]-[0059]; DWGs. 9-10).

Claim 36 (New) is rejected by the same reference, analysis, and rationales since it is directed toward the similar and obviously indistinct limitations as shown above in Claim 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **17-19, 37-39, 45, and 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over **KANAZAWA et al. (JP 2001054147 (already of record))**.

Regarding Claim **17**, (Currently Amended) **KANAZAWA et al.** teach the method of claim 16, further comprising:

time-stamping the first images with a current time ([**0018**], DWG. **1**, i.e. **6 generates image control signal b**; [**0025**], DWG. **1**, i.e. **1 outputs vertical sync signal e and picture signal a which are obviously included activation/deactivation timings**);

determining a distance ([**0024**]-[**0028**], DWGs. **3(a)-3(c)**, i.e. **obviously obtained from the frequency and movement speed of the sine wave 30**) traveled by the first images within the visual field; and

calculating the pattern velocity based on the distance and a time difference between time stamps of the first images ([**0024**]-[**0028**], DWGs. **3(a)-3(c)**, i.e. **obviously obtained from the frequency and movement speed of the sine wave 30**).

Although **KANAZAWA et al.** do not *explicitly* teach disclose the above limitations, however as shown in the above analysis, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to deduce from **KANAZAWA et al.** teaching to readily construct the claimed processes *to improve image quality by synchronizing movement of the image on the screen with the rotation sensor*.

Claim **37** (New) is rejected by the same reference, analysis, and rationales since it is directed toward the similar and obviously indistinct limitations as shown above in Claim **17**.

Regarding Claim **18**, (Previously Presented) **KANAZAWA et al.** teach the method of claim 17, further comprising:

determining the distance based on a luminance characteristic ([**0022**], DWG. **2**, i.e. the movement of portions **21** and **22**; [**0056**]-[**0057**], DWGs. **9(a)** & **9(c)**, i.e. moving of picture **90** from position as shown in DWG. **9(a)** to position as shown in DWG. **9(c)** corresponding to field periods **T1** to **T2**) of the first images.

Claim **38** (New) is rejected by the same reference, analysis, and rationales since it is directed toward the similar and obviously indistinct limitations as shown above in Claim **18**.

Regarding Claim **19**, (Currently Amended) **KANAZAWA et al.** teach the method of claim 18, further comprising:

determining the number of sensor elements of the image sensor traversed by the first images which is *obviously* obtained because the number of picture elements (i.e. the number of pixels constituting the screen's resolution) of the image sensor must be known to synchronize horizontal and vertical start signals accordingly so that a desired image is displayed correctly.

Claim **39** (New) is rejected by the same reference, analysis, and rationales since it is directed toward the similar and obviously indistinct limitations as shown above in Claim **19**.

Regarding Claim 45, (New) **KANAZAWA et al.** teach the system of claim 36, wherein the sensor velocity comprises an angular velocity ([0026], DWGs. 3(a)-3(c), i.e. roll control signal c which would obviously includes angular velocity).

Claim 51 (New) is rejected by the same reference, analysis, and rationales since it is directed toward the similar and obviously indistinct limitations as shown above in Claim 45.

Response to Arguments/Amendments/Remarks

7. Claims 1-15 and 20-35 are canceled.
8. Newly submitted Claims 40-44 and 46-50 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
The method/system for evaluating a quality of motion images on the screen based on luminance distribution and minimum blurred edge width of the first images.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, Claims 40-44 and 46-50 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

9. On Page 12, Applicant argues that "Kanazawa fails to disclose "capturing, by an image sensor, a plurality of first images of a test pattern moving on [a] screen at a pattern velocity while a visual field of the image sensor is fixed with respect to a

distance and an angle between the image sensor and the screen," "determining the pattern velocity based on the first images," and "capturing a second image of the test pattern while the test pattern is moving on the screen at the pattern velocity and the image sensor is moving at [a] sensor velocity,". However, the Examiner respectfully disagrees because **KANAZAWA et al.** teach

capturing, by an image sensor ([0019], DWG. 1, i.e. picture sensing device 5), a plurality of first images ([0022], DWG. 2, i.e. bright portions 21 and dark portions 22) of a test pattern ([0022], DWG. 2, i.e. picture 20) moving on the screen at a pattern velocity ([0056]-[0057], DWG. 9(a) & 9(c), i.e. moving of picture 90 from position as shown in DWG. 9(a) to position as shown in DWG. 9(c) corresponding to field periods T1 to T2) while a visual field ([0056]-[0059], DWG. 9(a) & 9(c), i.e. area of picture 90 shown in DWG. 9(a) and 9(c)) of the image sensor is fixed with respect to a distance and an angle between the image sensor and the screen ([0056]-[0059], DWGs. 9(a) & 9(c), i.e. since the area of picture 90 remains constant remains constant as the mirror 3 rotated at an angle of $\Delta\theta$ as shown in DWG. 10(a) and 10(b), the distance and angle between the picture sensing device 5 and screen 2 must be inherently fixed);

determining the pattern velocity based on the first images ([0019], DWG. 1, i.e. output control of the picture signal; [0020], DWG. 2, i.e. 1 outputs the signal of the picture which moves in the display; [0023], DWG. 2, i.e. the picture is moving with constant speed);

setting a sensor velocity corresponding to the pattern velocity ([0019], DWG. 1, i.e. picture on 2 is inputted into 5 with a roll control,...is clamped by the predetermined

level; [0026], DWGs. 3(a)-3(c), i.e. roll control signal c ... synchronizing with the picture signal a; [0025]-[0028]);

capturing a second image ([0056]-[0057], DWG. 9(a) or 9(c), i.e. picture 90) of the test pattern while the test pattern is moving on the screen at the pattern velocity ([0056]-[0057], DWGs. 9(a) & 9(c), i.e. moving of picture 90 from position as shown in DWG. 9(a) to position as shown in DWG. 9(c) corresponding to field periods T1 to T2) and the image sensor is moving at the sensor velocity ([0019], DWG. 1, i.e. picture on 2 is inputted into 5 with a roll control,...is clamped by the predetermined level; [0026], DWGs. 3(a)-3(c), i.e. roll control signal c ... synchronizing with the picture signal a; [0025]-[0028]).

Conclusion

The prior art(s) made of record and not relied upon (is)/are considered pertinent to applicant's disclosure: KONDO et al. (JP 2001042845 A).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:00-4:30) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vinh T Lam/
Examiner, Art Unit 2629

/Amare Mengistu/

Art Unit: 2629

Supervisory Patent Examiner, Art Unit 2629